University of Washington

School of Public Health

Self-Study Report

for the

Department of Epidemiology Academic Review

February 2016

COVER PAGE

Name of Unit	Department of Epidemiology School of Public Health University of Washington
Degrees	PhD in Epidemiology MS in Epidemiology MS – Clinical Research in Epidemiology MPH in Epidemiology MPH – Maternal and Child Health in Epidemiology MPH – Global Health in Epidemiology
Last Review	2004
Chair	Victoria Holt
Self-study Authors	The Epidemiology Faculty and Staff
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Executive Summary

The Department of Epidemiology has been part of the University of Washington (UW) School of Public Health (SPH) for 45 years, and has grown steadily over this time. The student body now averages around 160 graduate students (75 doctoral students and 85 master's students), with 15-20 new doctoral students and 40-45 new master's students enrolled each year. The core faculty consists of 60 members, most with strong professional connections to other UW departments and other research institutions in Seattle and elsewhere. These faculty members are prominent and active in their research specialties; they published over 5000 peer-reviewed articles over the past 10 years and successfully competed for scores of research grants. This demonstrated excellence has contributed to the Department's reputation as one of the outstanding departments of Epidemiology nationally. Our reputation and our core faculty's commitment to mentoring have allowed us over the years to recruit outstanding graduate students, who have gone on to prominent professional positions themselves after graduation.

The UW’s internal funding structure changed in 2012 with the institution of Activity Based Budgeting; at the same time (from FY 2009 to FY 2012) there was a 50% decrease in state funding provided to the University. The SPH uses Activity Based Budgeting to allocate funds to the Department primarily on the basis of student credit hours taught in Epidemiology-sponsored courses and indirect costs generated by grants submitted through Epidemiology, with some additional funding from the Provost's Office and the SPH Office of the Dean. These changes, particularly in light of decreased federal funding for medical research, have had adverse consequences for the Department.

There has been a recent change in leadership in the Department, with Victoria Holt assuming the Chair position in November, 2015 after 10 months as Interim Chair. Over the past year we have implemented administrative and budgetary changes in response to the forces described above and to reinvigorate our academic and research programs to be more responsive to current and anticipated needs for epidemiologists in the public health workplace in the future. Our overall plans for these areas are in Section IV: Future Directions. Briefly they include: 1) community building within our Department and with our external professional colleagues, 2) updating our doctoral program with an increased emphasis on emerging advanced epidemiologic methods and professional development, 3) embracing the SPH plans for a re-envisioned MPH program suited to preparation of public health practice professionals while maintaining the methodologic excellence of our current MPH program, 4) implementation of an online or hybrid format for some graduate courses and strong consideration of a fee-based master's level program in Epidemiology, 5) development of additional undergraduate Epidemiology courses and possibly an undergraduate minor, and 6) reinvigoration of the Department's research program through the provision of necessary infrastructure for large sponsored projects. We also plan to leverage the SPH Strategic Plan's emphasis on social determinants of health and genomics in public health through faculty hires in these areas and increased collaboration within and outside of the department in research on these topics.

While our plans are ambitious and the challenges are many, based on our results over the past year we are confident that we are on track to financial sustainability and an enhanced ability to respond to new circumstances facing academia and our profession in the next decade and beyond.

Part A: Required Background Information

Section I: Overview of the Organization

1. Mission, History, and Organizational Structure

1.1 Overview

The overall mission of the UW SPH Department of Epidemiology is to provide rigorous training in the fundamentals and practice of epidemiology, to contribute to the understanding of the etiology and prevention of disease, and to improve the health of the public through excellence in research. To accomplish this mission, the Department focuses on three primary goals:

Research: To advance knowledge regarding the occurrence, distribution, and outcome of disease in human populations by maintaining a strong and diverse collaborative interdisciplinary research program with outstanding faculty and students.

Education: To educate leaders in epidemiologic research and public health practice through graduate in-residence and online degree programs at the master's and doctoral level, and provide exposure to the field of epidemiology at the undergraduate level.

Service: To provide professional service in epidemiology through faculty and students working with federal, state, and local health agencies and other organizations to conduct collaborative research and provide technical assistance.

1.2 History

The research, service, and degree programs in the Department of Epidemiology originated in the 1960s in the UW School of Medicine's Department of Preventive Medicine and in the early 1970s in the UW SPH. Between 1976 and 2004 (the year of the prior program review) the Department expanded its MPH degree to include two specialized tracks (Maternal and Child Health, Global Health). In 2008 the Department initiated a new MS track (Clinical Research) aimed principally at clinician fellows who plan to pursue careers in academic medicine.

The Department has had six Chairs during its 45 year history. The current Chair, Victoria Holt, assumed this position in November, 2015 after serving as Interim Chair from February, 2015.

1.3 Organization

The Department's organization is depicted in Appendix A. In addition, the Epidemiology Executive Leadership Team (ELT) was constituted in late 2014, just before the current Department Chair assumed the Interim Chair position. The current members of the ELT are the Department Chair (Victoria Holt), Administrator (DJ Miller), Graduate Program Director (Stephen Schwartz), Curriculum Committee Chair (Janet Baseman), and the Assistant to the Chair (Angelica Buck).

2. Degrees and Programs Offered

The Department of Epidemiology offers a PhD in Epidemiology, as well as both MS and MPH degrees in Epidemiology. The MS degree has two track options: *General Track* and *Clinical Research Track*. The MPH degree has three track options: *General Track*, *Maternal and Child Health Track*, and *Global Health Track*. The number of graduates of these programs from 2005

to the present is shown in Appendix D. The number of students enrolled as of Fall Quarter 2015 and the number who graduated during the 2014-15 academic year are shown below in Table 1.

The Department also offers three graduate certificate programs: Maternal and Child Health, Advanced Clinical Research Methods, and Basic Clinical Research Methods. The Department does not currently offer any undergraduate degrees. We are, however, strongly considering the value and feasibility of developing an undergraduate minor in epidemiology.

3. Academic and non-academic staffing

Department operations are organized around nine core staff members who provide daily support across both academic and non-academic matters (Appendix A). In addition to the core staff there are additional research support staff, most notably 11 individuals who work in the department's National Alzheimer's Coordinating Center, and two who work in support of the Fetal Alcohol Spectrum Diagnostic & Prevention Network.

Three of the nine core staff members are housed within the Student Academic Services (SAS) office; they directly support the Department's academic programs. Other core staff include a finance and grant team of four, an Assistant to the Chair, and a Communications Manager. This core team of permanent employees is complemented by a shared IT "desktop" support staff member (from SPH's Department of Environmental and Occupational Health Sciences) and hourly student assistants who provide support across all the core functional work groups.

4. Shared Governance

The UW Faculty Senate is the legislative body of the university faculty; the Department of Epidemiology has one elected Faculty Senator and one alternate. The SPH has a Faculty Council to advise the Dean on academic policy, including priorities, resource and salary allocation, and budgets; and faculty hiring, promotion and tenure decisions. The Department of Epidemiology has one elected representative to the SPH Faculty Council and one alternate. The SPH has one standing committee, the Curriculum and Educational Policy Committee (CEPC), under the guidance of the SPH Faculty Council. The Chair of the Department of Epidemiology Curriculum Committee represents the Department on the SPH CEPC.

Shared governance in the Department of Epidemiology is achieved in several ways. On an ongoing basis, all the faculty representatives described above (the Department's Faculty Senator, the Faculty Council representative, and the CEPC representative), and in addition the Graduate Program Director, communicate with Department of Epidemiology faculty through a recently-developed Committee Updates newsletter that is circulated just prior to each departmental faculty meeting. Questions about the updates are then discussed at the monthly meetings. Shared governance is also implemented through the Epidemiology Leadership Team described in Section 1.2. The ELT meets weekly to address timely and pertinent issues in the department that affect finances, human resources, instruction, facilities, and general department oversight and direction. Items discussed by the ELT are regularly brought to a full faculty meeting when needed to garner additional input. Important themes determined in this manner are brought to the entire faculty for further discussion in annual day-long retreats.

5. Budget and Resources

5.1 Overview

The Department's budget can be broadly categorized into general operating funds (for routine administrative and academic operations), grant and contract funds (sponsored projects), non-grant faculty-directed funds (gifts and revenue-generating accounts associated with individual

faculty members), and departmental discretionary funds (endowments and gifts to the Department). Overall budget activity has averaged ~$21M/year over fiscal years 2010-2015. Appendix B provides details of expenses, encumbrances, and remaining balances from FY2012 to the present, as well as projections into FY2017.

The SPH instituted ABB as the departmental fund-allocation model in 2012, following the UW's adoption of ABB to allocate funds to schools and colleges. (The SPH is the only UW school or college to use this approach). The SPH ABB model directly aligns department allocations based on student credit hours (SCH) taught (returned to the department as "Tuition"), indirect costs generated by grants (returned as an "RCR"), and a "Supplement" amount using funds the SPH receives from the Provost. In addition, departments are eligible to request "Adjustment Funds" from the SPH for specific projects and endeavors. Epidemiology recently obtained Adjustment Funds to cover the costs of developing new undergraduate courses. This has proven a sound investment, as the new undergraduate courses are performing well (i.e., large enrollments, favorable course evaluations), resulting in increased Tuition revenue the following year. The SPH also has an "Earmark" funding allocation for specific commitments to individual departments; Epidemiology has no current Earmark allocations.

We have worked assiduously and successfully over the last 1.5 years to curb the significant decline in available department operating reserves; the decline in reserves has plateaued and departmental reserves are now projected to remain relatively steady in the range of $600-700K over the next several years. This stabilization has resulted from increased revenue (primarily increased tuition from new undergraduate course offerings) and decreased expenses (primarily reducing the frequency of offering some low-enrollment courses, and eliminating several faculty expense commitments that no longer fit within the scope of activity in the Department).

The Department's grant funds have declined in recent years as a result of decreasing federal funding, a situation not unique to this department. Another dip is expected to occur next year following the departure of the Department's Center for Clinical Epidemiologic Research (CCER), a major source of federal grant funds, to Washington State University in September 2015. Although this transfer will result in a loss of RCR to the Department, there will also be savings from eliminating support of CCER staff salaries and infrastructure charges that Epidemiology covered. The overall net loss to the department is expected to be ~$150K/year. Although that amount is significant to the Department's overall operating funds it is expected to be balanced by increased grant activity by new junior faculty, as well as increased tuition revenue (e.g., two new undergraduate courses are being developed and will be offered in AY16-17).

Gift and endowment funds currently are not a source of significant revenue for the Department, although we aspire to increase fundraising activities to support a variety of initiatives. Current endowment income is used primarily to support student travel expenses to attend professional conferences. The department has recently begun to work with the SPH Advancement team to strategize on methods to increase such discretionary funds (see Section 6.3).

5.2 Evaluation of Current Funding and Resources

The Department held a day-long Faculty Strategic Planning Retreat in spring 2015 (and will hold another in April 2016) where all faculty were invited to attend and work collectively to address key issues in the Department, including those related to funding and resources. Specific deficits and needs were identified at that retreat, and the ELT worked with the previous Department Chair to address these needs in the ensuing months. Additional time has been spent at faculty meetings over the past year since Dr. Holt became Chair to delve further into the areas addressed at the Faculty Strategic Planning Retreat. One result of this process has been the

recent decision to guarantee 5% salary coverage for all primary faculty members beginning July 1, 2016 (see "Grant-getting Strategy" section below for definition of primary faculty).

5.3 Fundraising/Development/Grant-getting Strategy

Advancement: The Department has just begun to undertake advancement activities, with the assistance of the SPH Advancement team (under the direction of M. Ingram, Assistant Dean of Advancement) and the first-ever Department of Epidemiology Communications Manager, Erica MacArthur. Recent department-oriented publicity aimed at fundraising includes the SPH school-wide publication "Close Up" issue of November 24, 2015 and the SPH Connect issue in February, 2016. A mechanism recently has been established for communicating with previous/current donors by mail and email, and an engagement letter was sent to the Department's 1,300 alumni, emeritus faculty, and former donors in February, 2016. An advancement event celebrating the new Chair will be held in April, 2016.

The Department's ELT currently is developing an advancement plan and campaign prioritization process in conjunction with the SPH Advancement team, informed by departmental strategic goals. The plan is based on our collective vision of the Department's priorities for the next 5-10 years that will have real impact in improving the public's health, will resonate with donors, and are in areas in which the department has national or international leaders. Our advancement priorities for this campaign include obtaining donor support for: 1) our visible public health practice activities (notably our new Student Epidemic Action Leaders (SEAL) Team of student outbreak investigators directed by Dr. Janet Baseman), 2) emerging issues of high current public interest and importance (starting with Dr. Ali Rowhani-Rahbar's gun violence prevention projects), 3) student research into the impact of social disparities on health (pertaining to the work of Dr. Anjum Hajat's on the associations between socioeconomic status and exposure to environmental toxins, and others), and 4) student research on genomics and public health (pertaining to our faculty's work on genetic influences on risks of cancer, cardiovascular disease, altered immune status, obesity, and other health problems). We anticipate the advancement plan to be fully developed by June, 2016, with initial implementation activities in place soon after.

Grant-getting Strategy: The Department has 60 core faculty with full appointments: 3 lecturers, 11 assistant or research assistant professors, 9 associate or research associate professors, and 37 full or research professors. Of these, 45 are considered "primary" by the UW because they have no other UW appointment; the remainder have their primary appointments in other UW departments in the SPH or in other schools (primarily the School of Medicine). Of the 45 primary faculty, 17 are classified by the UW as "PDR" (they are appointed and paid by other institutions). Of these 17, 14 are employees of the Fred Hutchinson Cancer Research Center (FHCRC), one is employed by the Snohomish Health District as the Health Officer, one is employed by Group Health Research Institute (GHRI), and one is an employee of the Department of Veterans' Affairs (VA). Because in the UW ABB system as operationalized by the SPH a portion of research grant indirect costs (currently approximately 30% of indirect costs paid to the UW) is returned to the Department through which the Principal Investigator submits the grant, and because faculty are routinely required to submit their grants through their primary departments or employing institutions, only 28 of our core faculty are eligible and likely to submit their grants through the Department. Three of these 28 are lecturers with only teaching responsibilities, leaving 25 primary faculty as the nucleus of the department's grant portfolio.

We have implemented two substantial changes to increase the grant success of these 25 primary faculty members, who are now required to submit all their grants through the Department. First, to prepare for and support the desired increase in external grant funding, the

Department has increased its research infrastructure over the past year, re-aligning departmental staff to provide more support to primary faculty. We now have a 0.8 FTE Grants Manager who manages pre- and post-award activities for sponsored research projects including proposal submissions, monitoring compliance and deadlines, directing award close-out processes, and providing department review and approval of IRB applications. Our 1.0 FTE Program Operations Specialist provides faculty with direct support of their budgets and expenditure planning, reconciliations, effort certifications, as well as pre-award support in coordination with the Grants Manager. This individual also coordinates numerous finance functions such as Academic Student Employee appointments and travel reimbursements.

Second, we have recently initiated a Research Strategy Group to assist our junior faculty in grant development and submission processes. This group, which includes senior faculty as mentors and a junior faculty-determined agenda, meets monthly. It has already resulted in important recommendations for administrative resources to improve grant award success within the Department. One suggestion from the group is to establish one or more research centers to be located within the Department, to foster collaboration among primary faculty and enable research staffing efficiencies. The Administrator and Chair are working together on plans for such centers.

6. Academic Unit Diversity

6.1 Overview of Diversity in the Department

Overview: Epidemiology, by its very nature, deals with the effect on health of a variety of sociocultural issues crossing all racial, ethnic, economic, sexual and gender lines. The UW and the Department are committed to increasing the enrollment and retention of diverse student populations. Our application materials include a required Diversity Statement articulating the ways in which the applicant's educational, socio-economic, and cultural experiences have affected their career plans. We are developing our departmental diversity plan based on the diversity priorities set out by the SPH Diversity Committee as noted below.

Diversity Committees: The SPH's Diversity Committee is a school-wide body that works to foster a diverse, inclusive, engaging, challenging, and supportive social, intellectual, and scholarly learning environment that is open to diverse beliefs, values, ideas, perspective, and backgrounds. The Department has faculty representatives and student representatives on this committee. The SPH Diversity Committee's current priorities are to: 1) strengthen diversity within the school’s curricula, including material and methodologies for understanding and addressing socioeconomic status, class, race, and other social determinants of health, 2) develop and implement faculty, staff, and student recruitment policies and measurable goals that ensure searches produce a diverse applicant pools, 3) develop and implement initiatives for mentoring and retention of underrepresented minority faculty, staff and students, 4) work to create and sustain a welcoming climate for diversity, and 5) develop and implement activities including ongoing professional development for faculty and staff so that they can provide such a climate for students and for each other, and a built environment that is welcoming and accessible for all people and cultures.

We have recently implemented an Epidemiology Diversity Committee; membership includes the department's faculty and student representatives to the SPH Diversity Committee, as well as one Department of Epidemiology staff member. The Department's new Chair, Victoria Holt, chairs this committee. The role of this committee will be:

- Strategic planning around issues of under-represented minority (URM) recruitment, retention, and funding, departmental inclusivity and culture, faculty recruitment and

development, student training, administrative staffing, academic visitors, and physical organization.
- Creation and implementation of diversity focused initiatives within the department, beginning with a department-wide climate survey and the institution of implicit bias training for all departmental committees and supervisory personnel.

Unit Employee Diversity: Of the 28 primary faculty, one is Native American, one is African American, two are Asian Indian, and 24 are non-Hispanic White. Seventeen are female (including the Chair), and 11 are male. Of the nine core staff members (five female, four male) in the department, one is Hispanic, one is Asian American, and seven are non-Hispanic White.

6.2 Diversity as it Relates to Enrollment in Academic Programs

Outreach: We annually distribute a special recruitment email for Name Exchange, McNair, California Diversity Forum and other databases of URM prospective students. We cooperate with the SPH, its departments, UW Graduate Opportunities and Minority Achievement Program (GO-MAP), etc. to disseminate knowledge about our programs at Seattle-area diversity fairs and conferences. Representatives from Epidemiology SAS also have tabled at national conventions for both the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) and the Annual Biomedical Research Conference for Minority Students (ABRCMS). Students who visit the UW SPH table at these events and express interest in the UW Epidemiology graduate program are later contacted with further information and an invitation to discuss our programs further with an advisor. For the first time this past October, an Epidemiology SAS representative attended a UW Medicine recruitment event attended by juniors and seniors from Southern Methodist University who participated in their STEMPrep program. All the attendees were URM students who had indicated an interest in learning about biomedical research graduate programs offered at the UW.

Recruitment and Retention: The Department places high emphasis on recruitment and retention of students from under-represented groups (principally, but not exclusively URMs). We submit annual applications for research assistant (RA) funding from the UW GO-MAP, and have been successful ~50% of the time. In almost all years that we receive GO-MAP RA funds, we have successfully recruited a URM applicant to receive the award. In multiple years during the past decade we have proposed, and received recruitment incentive funding for, admitted URM PhD applicants via Achievement Rewards for College Scientists (ARCS) Diversity Fellowships. We also have committed to ensuring at least some continued funding for all enrolled URM students who receive these and other awards. As an example, for an out-of-state MPH student who was recruited to our Department with an SPH Fellowship (amounting to a partial RA for one year), but who could not find a faculty-funded RA position in her second year, we provided a monthly stipend that allowed her to qualify for in-state tuition.

We work with current students to promote the GO-MAP Visit Days to our admitted students from under-represented groups and have had participants almost every year. During our departmental Visit Days, we try to match prospective URM with current URM student hosts. We offer financial support for airfare for all admitted URM students who need it and arrange visits for all who were interested.

From 2005-15, URM students comprised 10.3% of our enrollment (25/230 MPH students, 15/147 MS students, and 16/169 PhD students). The “dropout” proportions for the Department’s URM students are 0% (MPH), 33.3% (MS), and 12.5% (PhD). The corresponding figures for non-URM students are 5.9% (MPH), 12.1% (MS), and 3.9% (PhD). The 5 URM MS students who left the program did so for a variety of personal and/or professional reasons, only one of which was clearly connected to difficulty with the required courses. The 2 URM PhD students

who left the program both failed to pass the Doctoral Preliminary Examination (see Section II, 1.2) after two attempts; one of these students subsequently was admitted to the UW Department of Environmental and Occupational Health Sciences PhD program, which was a better fit for his career interests. Since the most recent of these two students left (2010) we've instituted additional measures to identify and help any struggling PhD students in their first year to help reduce the chances that they will not be successful on the Doctoral Preliminary Examination, and these steps appear to have benefitted URM students, as none have failed to pass this test since then.

Creating a Supportive Environment for Underrepresented Individuals: We provide accommodations to all students with disabilities who request them via UW Disability Services. All departmental staff have participated in UW Safe Zone Training, providing skills that allow them to become allies for GLBTQTQI students and colleagues. We prioritize students from underrepresented backgrounds when disbursing funds to pay for individual tutoring. We try to match URM admitted students with URM faculty mentors. When this is not possible, we match URM students with faculty who have strong mentoring records.

6.3 Diversity as it Relates to Faculty

As noted above, 7% of the primary faculty in the Department are from URM groups. That figure is 25% for the assistant and associate professor-level primary faculty, providing evidence of recent success in diversifying the faculty racially. The Department follows the SPH guidelines for faculty search committees that are designed to help increase the diversity of the faculty. An 8-step process is outlined, with documentation required as to how the search committee has conducted each step, and the results. Steps include diverse representation on search committees, recommended language in job advertisements, outreach to minority-serving institutions, and others. We recently hired a Research Assistant Professor whose research area is social determinants of health, including investigations of racial and socioeconomic status differences in exposure to air pollution. Funds from the SPH Dean's office Strategic Initiatives supported this hire.

Our faculty have historically been approximately equally divided by gender, but recent hires have predominantly been women. Among our current primary faculty, women comprise 67% of assistant professors, 60% of associate professors, and 50% of full professors.

The Department is committed to the career success of all its junior faculty; and that success is fostered and monitored by required annual reviews with the Department Chair and regular meetings with the faculty member's research mentor(s). The URM faculty in the Department are current recipients of K awards, and each has award-associated mentors who are senior faculty in the Department. There is a written mentorship plan for each of these faculty members, and each discusses the mentorship activities and success with the Department Chair. One is a participant in the Programs to Increase Diversity Summer Institute Program, which is designed to provide underrepresented scientists with intensive individualized training and guidance in grant writing and peer review in order to enhance their capacity for success in their research careers.

Section II: Teaching and Learning

1. Student Learning Goals and Outcomes

1.1 Student Learning Goals

Our graduate degree and certificate program competencies are shown in Appendix D. The Department of Epidemiology does not have an undergraduate major. Thus, all undergraduate courses in epidemiology are taken by non-major students, and each course's learning goals are designed with non-major students in mind. Learning goals across our undergraduate course offerings at present are established at the “awareness” and “knowledge” competency levels.

1.2 Evaluation of Student Learning

We evaluate our students through a combination of classroom-based and non-classroom performance assessments.

Classroom: Required classroom-based courses for each degree must be taken for a numerical (4-point scale) grade, and along with electives, must be passed in order to count as meeting the degree requirements. In addition, epidemiology graduate students are expected to maintain at least a 3.0 grade point average. Classroom-based courses assess students using examinations, homework assignments, individual or group projects, as well as participation.

Examinations: PhD students must also pass three examinations to complete their program. The *Doctoral Preliminary Examination* (referred to at other institutions or departments as the “Qualifying Exam”) is a one-day assessment each June that tests students on their command of the core epidemiologic methods as taught in EPI 512, EPI 513, and EPI 514. A student must pass this examination (and has 2 opportunities to do so) before he or she can proceed to form a Doctoral Supervisory Committee. The *General Examination*, required by the UW Graduate School, is designed by the student’s Doctoral Supervisory Committee and assesses his/her preparation for conducting the proposed dissertation project. The *Final Examination* consists of the dissertation defense in which the doctoral candidate presents his/her research at a seminar and answers questions from the Doctoral Supervisory Committee as well as the public. There are no corresponding examinations for MS or MPH students.

Thesis and Dissertation Research: A major, if not the most important, component of an Epidemiology graduate student’s education is her/his work on a thesis (MPH and MS) or dissertation (PhD). The initial evaluation of a student's performance in such culminating works is via the decision of his/her corresponding Master’s or Doctoral Supervisory Committee to accept the work as completed. Ultimately the quality of these projects is judged by the external scientific community through student-led publications in peer-reviewed journals, abstracts presented at scientific meetings, awards from professional societies, success at job searches following graduation, and the extent to which our graduates impact epidemiology and public health during their careers.

1.3 Assessment of Student Satisfaction

Several approaches are used to gauge student satisfaction. The primary quantitative assessment occurs through exit surveys conducted through the UW Graduate School. Results from recently exiting students are shown in Appendix D and demonstrate very high levels of satisfaction with both the quality of the program and its climate. The Department’s Student Academic Services Office also requests that graduating students complete our own survey

(consisting of responses to open-ended questions) as part of the final degree audit process. Information obtained in these surveys helps bring to light both student satisfaction with certain aspects of our programs or potential deficiencies that require action. In addition, the Chair and the Assistant Director of Student Academic Services, in partnership with student leaders in the Department, meet quarterly with groups of students to discuss issues of particular relevance to them. Discussion topics will be wide-ranging and may be initiated by students or faculty or staff. The primary goal of these meetings is to provide a forum for students to communicate any ideas or concerns they have that directly impact their satisfaction. While these meetings aren't necessarily focused on gauging the satisfaction of students from under-represented groups, we expect that issues of importance to this group of students will be raised and acted upon as a result. We currently do not have any distinct efforts to gauge the satisfaction of students from under-represented groups. However, we expect that the recently established Epidemiology Diversity Committee will initiate a climate survey to learn about the particular issues that are of concern from under-represented groups. The school-wide SPH Diversity Committee also makes efforts to identify issues that are unique or more common among under-represented groups.

1.4 Assessment of Student Learning and Use of Assessments to Improve Programs, Effect Curricular Changes, and/or Make Decisions About Resource Allocation

Course Evaluations: The Department uses students' structured and unstructured course evaluations to provide important information about how each of our courses is meeting student needs and expectations. Items in these evaluations include the students' opinions of the course organization, content, relevance and usefulness; instructor's contribution to the course, effectiveness in teaching, preparation, openness to student views, and interest in student views.

These course evaluations (along with faculty peer evaluations of each course) are discussed at departmental Curriculum Committee meetings, and with the Chair. For evaluations below a defined threshold, the Chair discusses the course and the evaluations with the instructor. Recently, course evaluations have resulted in the reorganization of the second year advanced epidemiologic methods series with the removal of one course and the addition of another, and a formal review of the doctoral dissertation seminar course series.

Less formally but perhaps no less importantly, discussions between the Chair and the students have revealed a desire for more interaction between students in our main offices in the F-wing of the Health Sciences Building, and more interaction between students and faculty. We responded with the creation of the Epi Student Commons in the heart of the Department's physical space, and the initiation of several social events for faculty and students throughout the academic year (orientation reception, Friday happy hours, Autumn barbeque, holiday party, spring epi hazard function, and the Summer Salmon party).

Competencies Surveys: The SPH conducts annual surveys of all students to gauge their opinion on the extent to which their programs are resulting in the expected competencies. For each competency students are asked to rate their own level of accomplishment on a 5-point scale (1=Not competent, 3=Somewhat Competent, 5=Competent). Average scores for Master's and PhD students in the Department of Epidemiology are almost always between 4 and 5, and never lower than 3, suggesting broad success at meeting our programs' learning objectives.

2. Instructional Effectiveness

2.1 Method(s) Used to Evaluate Quality of Instruction.

New courses and courses taught by Assistant or Associate Professor level faculty are routinely peer-reviewed for quality monitoring purposes. All instructors are required to use UW's on-line Instructional Assessment System to allow students to provide quantitative (5 point Likert-type

scale) and qualitative feedback about their courses. Beginning in 2014, our curriculum committee began regularly reviewing these student course evaluations on quarterly basis at the time that the prior quarter's evaluations become available. This has allowed us to conduct regular monitoring of course quality and to establish policies to deal with low performing courses. Our current policy includes the following: 1) Identification of a problem course (a course that scores lower than a 3.0 overall on a single offering); 2) Request from the Chair to the instructor to review the qualitative student feedback to collaboratively troubleshoot areas for improvement; 3) Meeting between the Chair and instructor to develop a remediation plan; and 4) Conduct of a mid-course assessment the next time the course is offered to allow for improvements prior to the end of quarter of the next course offering.

2.2 Opportunities for Training in Teaching

Teaching faculty have opportunities to participate in teacher training through various avenues. The UW Center for Teaching and Learning (CTL) offers training opportunities open to all faculty throughout the year covering various topics, such as using technology in the classroom, teaching large classes, and developing a teaching philosophy. Experts at CTL are also available to our faculty for one-on-one consultation about course-specific issues and can make themselves available to conduct mid-course assessments. The SPH has recently launched a new teacher training program: *Teaching, Learning, Sharing: A Faculty Development Series* for interested faculty and graduate students in the School who wish to improve their teaching. This series will be run during Fall, Winter and Spring quarters. Within the Department, we have begun identifying areas in which our faculty could benefit from additional training activities not available through the UW or SPH. For example, we recently invited an expert from the CTL to meet with our faculty to discuss strategies for managing courses with greater numbers of students than our faculty are accustomed to having in their classes.

Teacher training is primarily available to our graduate students in the form of teaching assistant (TA) positions. Many of our doctoral students (and some of our master’s students) serve as a TA at some point during their graduate training. While most TA positions taken by our students are assigned to courses within the Department, some TA positions are available through other SPH departments or programs, as well as other UW departments or programs. TA positions are excellent opportunities for students to learn about teaching tools and strategies, course organization, and other aspects of teaching via one-on-one mentoring from the faculty instructor. In addition, graduate students in the Department wishing to serve as a TA class often attend the CTL’s annual RA/TA conference, which provides workshop-like sessions on topics such as “Balancing Graduate School Demands,” “Canvas Learning Management System (Parts 1 and 2),” “Dealing with Challenging Classroom Situations,” and “Research Smarter, Not Harder: Research and Information Management Tips and Tools.”

2.3 Specific Instructional Changes Made by Instructors in Response to Evaluation

As described above, the Department has only recently begun monitoring course quality centrally within the Curriculum Committee and Chair's office. Prior to 2014, any changes made by individual instructors to courses in response to evaluation may have been discussed with the department Chair, but unfortunately there is no existing documentation of these discussions of course modifications. Recent examples of changes made in response to evaluation include:

EPI 201: Outbreak Investigation and Response. This course received an in-person mid-course assessment conducted by a facilitator from the CTL. In response to feedback that the course discussion sections were too redundant with lecture material, the discussion sections for the remaining weeks of the quarter were modified to provide additional material complementary to, rather than a review of, lecture material for the week.

EPI 584: Doctoral Dissertation Seminar. This course received feedback from both students and through a mid-course assessment that revealed that course organization and communications needed to be drastically improved. In response to this feedback, the course instructor took steps (including setting up a course Canvas page) to improve the course organization.

3. Teaching and Mentoring Outside the Classroom

3.1 Faculty Involvement in Undergraduate and Graduate Student Training Outside the Classroom

Each graduate student in the Department has an academic advisor who is his/her primary mentor through the early phases of the program--essentially until the student selects a thesis or dissertation topic and chair of the respective master's or doctoral supervisory committee. In addition, most of our graduate students are supported as RAs or fellows on NIH training grants, and one or more faculty members serve as a supervisor (RAs) or research mentor (training grant fellows) to each student as part of these funding mechanisms. RAs typically perform work as part of sponsored projects (e.g., NIH-funded grants or contracts), including designing and implementing research protocols, managing data, conducting statistical analyses to address project aims, and writing manuscripts for publication in peer-reviewed journals. It is not unusual for our RAs to have supervisors who are faculty in other UW units, such as the School of Medicine; these opportunities substantially broaden the scope of training that our students receive from faculty. Supervisors of RAs evaluate students annually regarding their performance in accordance with the UW RA/TA union bargaining agreement. This information is not part of the student's academic record but provides invaluable feedback as students prepare for employment after graduation. Training grant fellows often will participate in many of the same research activities as RAs, and receive regular feedback from faculty research mentors as part of the Individual Development Plan process.

Other non-classroom settings through which faculty are involved in graduate student training include serving as Faculty Practicum Advisors (MPH students), Independent Study mentors, leading departmental research seminars and works-in-progress sessions, participating in training grant seminars, and speaking in the Department's First Year PhD Seminar.

Although the Department does not have an undergraduate program, unusually well-prepared undergraduates who have taken one or more undergraduate public health courses (such as EPI 320 and/or BIOST 310) have worked on independent study projects with our faculty.

3.2 Ensuring Academic Progress and Overall Student Success

The Department places great importance on ensuring that each student is informed of, and follows, all of the requirements of his/her degree program, in order to complete his/her degree successfully in a timely manner. Requirements are communicated to students in a variety of means. The official documentation of requirements is contained in each degree program's handbook (Appendix D); these are updated annually for each incoming cohort and posted on the Department's website. The handbooks cover required coursework, examinations, procedures for thesis and dissertation committee formation, thesis and dissertation work and presentations, timeliness of requirements, and benchmarks allowing each student to assess his/her progress through various phases.

Each student is further assisted in reaching his or her goal through the use of program checklists. The checklists specifically indicate required courses, the number of electives required, required courses from other departments, and overall credit count. All checklists reflect the minimum UW Graduate School requirements plus additional requirements from the SPH and the Department. PhD student checklists indicate the appropriate timing of the General and

Final examinations. Students are also encouraged to contact Epidemiology SAS staff for an official degree audit, and to discuss all questions regarding degree requirements with the Graduate Program Director. Beginning with the Autumn 2016 quarter we hope to roll-out a new UW Graduate School-developed electronic tool that will allow each of our students to monitor his/her own degree requirement progress in real time.

Each student is expected to meet with her/his faculty advisor (or Masters/Doctoral Supervisory Committee chair) regularly, completing a “Progress/Plan” form twice per year. The Epidemiology SAS staff contact students who have not returned “Progress/Plan” forms to obtain those that are not turned in as scheduled. Further, up-to-date “Progress/Plan” forms are required if a student wishes to receive permission to go on leave, work at >50% FTE, or obtain several other approvals from the Graduate Program Director. The Graduate Program Director reviews these forms to identify any students who do not appear to be making progress, such Master’s students who have not identified a thesis topic by the start of Winter Quarter of the second year, and PhD students who have not identified a dissertation topic by the middle of the third year of the program or who by the beginning-middle of the 4th year do not seem to have made significant progress on their dissertation project. The Graduate Program Director contacts these students directly to determine what assistance or advice the Department can provide to help remove any impediments to progress. In addition, the Graduate Program Director contacts each MS student and each PhD student who has not completed his/her degree by the beginning of the third and conclusion of the sixth years, respectively, to discuss (and identify strategies to address) issues that may be making progress difficult. As necessary, the Graduate Program Director also discusses such situations with the Chair of the respective Master’s or doctoral supervisory committee.

Data on time-to-degree and completion proportions are provided in Appendix D, and show that our students make excellent progress through their programs.

3.3 Preparing Graduate Students For the Next Phases of Their Academic or Professional Lives.

There is a high demand for UW epidemiology graduates at both the Master’s and doctoral levels because we provide outstanding preparation to our students in the core skills and knowledge areas that our field requires in virtually all research settings in which they are hired: health problem identification and conceptualization, research proposal development, study design and implementation, data analysis and interpretation, written and oral communication to both epidemiologic and interdisciplinary audiences, and collaborative problem-solving (amongst others).

Career advising and mentoring is delivered largely by faculty who are serving as dissertation or thesis committee chairs or members, or directors of training grants, with the particulars depending largely on the student's degree program (MS, MPH, or PhD) and educational background (pre-doctoral or post-doctoral). Our faculty have collaborators all across the world in academic, government, and industry settings, and can readily refer students who need information about various career options (and necessary optimal preparation strategies) from these outside experts. The Graduate Program Director serves as "back up" for any student who feels that he or she needs more or different guidance than his or her committee chair can provide.

To assist students in the job search process, the Department publishes an electronic “Epi Weekly” newsletter, which includes job listings for permanent/professional positions locally, nationally, and internationally. The Epi Weekly is archived on our website to permit retrospective

access. We also promote the UW Career Services Office for their workshops, which many of our students attend.

Section III: Scholarly Impact

1. Faculty Achievements

The Department's 60 core faculty members have had a large impact on the public's health over the past 10 years; with over 5,000 peer-reviewed publications (see Appendix C for CVs). Several of our current and former faculty are elected members of the Institute of Medicine (IOM) (Psaty, Weiss, Grayston), and multiple others have served on IOM committees that have produced key reports on prominent health issues facing the US (Austin, Beresford, Drewnowski, Goldberg, Kaufman, Mayer, Smith). Twenty-four of our core faculty members have served on one or more NIH study sections. Selected recent faculty achievements in the areas of infectious disease epidemiology, cancer epidemiology, cardiovascular disease epidemiology, injury epidemiology and epidemiologic methods are discussed below.

Infectious disease epidemiology: Two faculty members have recent landmark studies on the prevention of two important infectious diseases, HIV (Baeten JM et al. Antiretroviral prophylaxis for HIV prevention in heterosexual men and women. N Engl J Med 2012, 367:399-410) and HPV (Winer RL et al. Condom use and the risk of genital human papillomavirus infection in young women. N Engl J Med 2006; 354:2645-54). Both of these speak to our mission to identify key points of intervention, be they drugs or modifiable behaviors, to improve the health of the public.

Cancer epidemiology: Fully a quarter of our core faculty are cancer epidemiologists, and much of their work, often done in multidisciplinary collaboration with other scientists at the Fred Hutch, involves discovery of associations between genetic variation and cancer. Representative of this area of research is Assistant Professor Amanda Phipps' recent publication on colorectal cancer survival (Phipps AI et al. Common genetic variation and survival after colorectal cancer diagnosis: a genome-wide analysis. Carcinogenesis 2016; 37:87-95).

Cardiovascular disease epidemiology: This area is the focus of many of our faculty, and their research often considers personally modifiable exposures. They have conducted critically important studies of hormone replacement therapy; a recent example is Nick Smith's analysis of cardiovascular disease risk in relation to the type of postmenopausal hormone replacement used (Smith NL et al. Lower risk of cardiovascular events in postmenopausal women taking oral estradiol compared with oral conjugated equine estrogens. JAMA Intern Med 2014; 174:25-31).

Injury epidemiology: This area is another strong research focus in the Department. Assistant Professor Ali Rowhani-Rahbar has begun researching gun violence (Rowhani-Rahbar A et al. Effectiveness of interventions to promote safe firearm storage. Epidemiol Rev 2016; Jan 13), a topic of major public health importance that disproportionately impacts communities of color.

Epidemiologic methods: Our department has long had a focus on developing and communicating epidemiologic methods. Professor Noel Weiss and Professor Emeritus Thomas Koepsell have published an important text on this topic (Weiss NS and Koepsell TD, Epidemiologic Methods: Studying the Occurrence of illness, Second Edition, Oxford, 2014) and Professor Emeritus Emily White has published a text on exposure measurement (White E,

Armstrong BK, Saracci R. Principles of exposure measurement in epidemiology, Oxford, 2008). Dr. Weiss' long-standing interest in observational approaches to assessing features of screening efficacy has continued with his recent publication on colorectal cancer (Weiss NS. Case-control studies of screening for colorectal cancer: tailoring the design and analysis to the specific research question. Epidemiology 2013; 24:894-7.) Infectious disease epidemiology methods are also a faculty focus, as illustrated in a recent editorial on behavioral surveillance as a novel method for monitoring infectious disease incidence which was co-authored by Professor Lisa Manhart and her doctoral student (Manhart LE and Khosropour CM. Launching a new era for behavioral surveillance. Sex Trans Infect 2015; 91:152-3).

Emerging research areas: Public health practice epidemiology is an emerging research area for the Department, and Associate Professor Janet Baseman has spearheaded our efforts with several recent publications, including one that focuses on training (Baseman JG et al. Epidemiology competency development and application to training for local and regional public health practitioners. Public Health Reports 2008; 123 Suppl 1:44-52). Recently, members of our faculty have become active in assessing social determinants of environmental exposures. Research Assistant Professor Anjum Hajat has just authored a review of this topic (Hajat A et al. Socioeconomic disparities and air pollution exposure: a global review. Curr Environ Health Rep 2015; 2:440-50).

2. Graduate Student Achievement

Our graduate students have an outstanding record of being recognized by the local, national, and international public health and biomedical community for their accomplishments while in our programs. Recent examples of local recognition include: Vivian Lyons (MPH), Michael Arndt (PhD), Bradley Wagenaar (PhD), and Monisha Sharma (PhD) as recipients of SPH Endowed Fellowships; Erica Lokken (MS) as the UW Graduate School Distinguished Thesis Award winner; Renee Heffron (PhD) as the UW Graduate School Distinguished Dissertation Award winner; Anjuli Wagner (PhD) selected as the UW Health Sciences Magnuson Scholar; Kim Kummer (MPH) (2014) and Arianna Miles-Jay (MPH) (2013) as winners of the SPH Grayston-Day Fellowship. Prominent recent examples of national and international recognition include: Kristjana Asbjornsdottir (PhD) (2015), Jillian Pintye (MPH) (2014), and Renee Heffron (PhD) (2012) as International AIDS Society Lange-Van Tongeren Young Investigator Prize winners; Kristjana Asbjornsdottir (PhD) as the Outstanding Young Icelander (2015); Elizabeth Kantor (PhD) (2015), Lu Chen (PhD) (2015), Michael Passarelli (PhD) (2015), Alison Rustagi (PhD) (2015), Laura Harrington (PhD) (2014), and Sean Rundell (PhD) (2013) for selection as SER Student Dissertation Workshop participants.

Our graduate students, particularly those in the PhD program, have strong and impactful publication records from the work they perform at the UW (often in addition to their thesis or dissertation work). Notable examples of high-impact publications led by our students include the following:

- Khosropour CM et al. Lack of association between azithromycin and death from cardiovascular causes. *N Engl J Med* 2014; 15:1961-2.
- Miller KA et al. Long-term exposure to air pollution and incidence of cardiovascular events in women. *N Engl J Med* 2007; 356:447-8.
- Barrington WE et al. Difference in association of obesity with prostate cancer risk between US African American and non-Hispanic White men in the selenium and vitamin E cancer prevention trial (SELECT). *JAMA Oncol* 2015; 1:342-9.
- Rehm CD et al. Trends in energy intakes by type of fact food restaurant among US children from 2003 to 2010. *JAMA Pediatr* 2015; 169:502-4.

- Robinson-Cohen C et al. Racial differences in the association of serum 25-hydroxyvitamin D concentration with coronary heart disease events. *JAMA* 2013; 310:179-88.
- Heffron R et al. Use of hormonal contraceptives and risk of HIV-1 transmission: a prospective cohort study. *Lancet Infect Dis* 2012; 12:19–26.

Another measure of the recognition of our students is the relatively large number who have been awarded competitive NIH predoctoral individual National Research Service Awards (F31): Griffith Bell (Air Pollution and High Density Lipoprotein Structure and Function), Gloria Chi (Methylomic and Transcriptomic Insights Linking Air Pollution and Atherosclerosis), Sarah Roberts (Gender-Based Violence and HIV Risk Mediating Pathways and Prevention Strategies), and Michael Young (Air Pollution and Microvascular Cellular Adhesion and Retinal Vessels in MESA).

3. Post-doctoral Fellows: Research and Teaching

Most of the Department's postdoctoral fellows are part of NIH training grants (T32, R25) and have research mentors selected from amongst our faculty. Each of these individuals completes one or more research projects during his/her tenure as a fellow. Teaching is not required of postdoctoral fellows, but occasionally there is an excellent match between a fellow's expertise and the needs of one or more of our courses for a guest lecturer. In such instances the fellow has been invited to contribute to the course under the mentorship of the course instructor.

4. Impact of Our Graduates

Many of our graduates are now productive faculty or have similar positions at academic and other research and public health institutions. A partial list includes: University of British Columbia (Patti Janssen), University of Melbourne (Jen Marino), University of Minnesota (Nicole Basta, Shalini Kulasingam, DeAnn Lazovich), University of Michigan (Emily Toth Martin), Albert Einstein (Robert Kaplan), Cedars-Sinai Medical Center/UCLA (Shehnaz Hussein), Stanford University (Lorene Nelson), Harvard University (Shelly Tworoger), Oregon Health Sciences University (Elena Andresen), Vanderbilt University (Meira Epplein), Columbia University (Gina Lovasi), GHRI (Diana Buist, Kathryn Newton, Jessica Chubak, Delia Scholes, Sascha Dublin), National Cancer Institute (Britton Trabert, Jonathan Hoffman), National Human Genome Research Institute (Carolyn Hutter, Lucia Hindorff). Notably, we have a large number of graduates have had or currently hold major leadership positions at academic institutions, public health agencies, industry, and non-governmental organizations (aside from the UW). Among these include chairs of departments of epidemiology (Andrew Olshan-UNC; Bernard Harlow-U Minn; Margaret Karagas-Dartmouth), a dean (Dariush Mozaffarian-Tufts), a department of health director (Mary Bassett-NYC), research directors at pharmaceutical corporations (Cathy Critchlow-Amgen; Drew Levy-Genetech/Novartis/Hoffman-LaRoche); and executives of health research and promotion organizations (David Shoultz-PATH/Bill and Melinda Gates Foundation; David Siscovick-New York Academy of Medicine).

5. Changes in our Field and Their Influences on our Work

The field of Epidemiology has evolved in many ways in recent years (for examples of areas of change in the context of advances and new technologies, and a discussion of our department's development in these areas in the context of curriculum, please see *Part B, Question 1, Part 1.4 Academic Emphases.*). One way in which the Department's Research and scholarship has evolved in response to these changes in Epidemiology is to hire new faculty members with expertise in advancing areas. For example, two of our most recent faculty hires conduct research in the burgeoning areas of genetic epidemiology and social determinants of health.

Competition for increasingly limited federal research grant funding has challenged our faculty (as it has challenged the faculty of many other departments and biomedical disciplines) in many ways. For example, faculty are spending much more time writing grant applications to maintain their research programs and many are also taking on bigger teaching loads (including undergraduate teaching) in order to secure more “hard money” to support their salaries.

6. Collaborative and Interdisciplinary Efforts

Epidemiology is inherently collaborative and interdisciplinary, and our faculty excel at building bridges with colleagues throughout the University and the greater Seattle biomedical/public health community in pursuing their research, training, and service missions (as well as with colleagues throughout the US and internationally). Most of our cancer epidemiology faculty are jointly appointed in the Public Health Sciences Division at the FHCRC. Other core faculty are located in the Snohomish Health Department, GHRI, and the VA. On campus, our core faculty hold joint appointments in the School of Medicine (e.g., Allergy and Infectious Diseases, General Internal Medicine, Surgery, Psychiatry, Family Medicine), the College of Arts and Sciences (Geography), and other SPH departments (Biostatistics, Environmental and Occupational Health Sciences, Global Health, Health Services). Five of our core faculty are also faculty in the SPH's interdepartmental Nutritional Sciences Program, and eight are faculty in the SPH's interdepartmental Institute for Public Health Genetics.

The research our faculty and students perform requires collaborations with a diverse array of other disciplines within and outside of public health, a few broad examples of which are described herein. Studies of the genetic basis of disease conducted by Peters, Psaty, Smith, Schwartz, Lindstroem, Stanford, Vaughan, Malone, and others involve co-investigators who are experts in genomics and bioinformatics. Investigations that our faculty (Manhart, McClelland, John-Stewart, Farquhar, Baeten, and others) lead in AIDS, STDs, and other infectious diseases engage laboratory-based co-investigators who have developed novel biomarkers to detect and quantify agents such as HIV and HPV. Our cancer epidemiologists (Phipps, Malone, Li, Newcomb, Stanford, Vaughan and others) team up with pathologists and biologists to measure molecular features of tumors and pre-neoplastic lesions to help identify etiologically and prognostically distinct malignancies.

In the realm of training and service, our new SEAL Team establishes an on-going collaboration with epidemiologists and other public health practitioners at the WA Department of Health (DOH). In addition, many of our MPH have conducted their required practicum with WA DOH as well as other local public health agencies (e.g., Public Health-Seattle & King County). Finally, nearly all Doctoral Supervisory Committees, and many Master's Supervisory Committees, include faculty from other UW departments (most commonly Biostatistics and Global Health).

7. Maximizing the Success of Our Junior Faculty

The Department of Epidemiology is committed to the career success of all of its junior faculty; and that success is fostered and monitored by required annual reviews with the Department Chair and regular meetings with the faculty member's research mentor(s). Most of the junior faculty in the Department are current recipients of K awards, and each has award-associated mentors who are senior faculty in the Department. There is a written mentorship plan for each of these faculty members, and each discusses the mentorship activities and success with the Department Chair at least annually.

Section IV: Future Directions

The new Department Chair, Victoria Holt, envisions the Department as the flourishing of a collaborative, supportive community with the collective will and sufficient resources to fulfill the department's mission and achieve the goals put forth at the beginning of this document. This supposes a number of activities, as described below.

Community Building

Our goal of community building is promoted through renovation of existing space as well as initiation of department-wide academic, social, and celebratory activities and better communication within the department. We have little opportunity for further space renovation currently, but we have embarked on department-wide activities in the areas noted, including expansion of the departmental seminar series. We have recently hired a part-time Communications Manager to facilitate these and other departmental activities.

Financial Resource Development

Our goal is to have sufficient financial resources to sustain the Department's mission. Reaching this goal involves both the maximization of current funding sources (tuition-based revenue, research-based revenue, Provost supplement funds, and SPH adjustment funds) and the development of additional funding sources, such as fee-based educational revenue, endowments and other donations. We are pursuing donations through new collaborations between our Communications Manager and the SPH Advancement team; several activities are in progress. The research and educational activities we plan are listed in the sections below. While they are developed taking into consideration the imperative of financial sustainability, we emphasize that it is our departmental mission that is the driver for these planned activities.

Reinvigorated Research Program

Our goals here are to create a strong and diverse collaborative interdisciplinary research program among our faculty and students, and to increase our emphasis on and capacity for department-based faculty research activity. We plan to address this by providing infrastructure for researchers and research groups in the following areas: expanded grants management staff for pre- and post-award support (already done), departmental assistance with grant personnel and space needs, assistance with incorporating graduate students into research projects, and the provision of additional mentoring for junior faculty (research agendas and grant applications, long-term career goals) to improve grant-getting success. We also intend to establish new and expand existing collaborative research relationships outside the Department. This will be accomplished in part by taking advantage of opportunities presented by the SPH Strategic Hire-funded faculty activities (pilot grants, local conferences, seminar series, etc.).

Reinvigorated and New Graduate Degree Programs

To reach our goal of educating leaders in epidemiologic research and public health practice through graduate in-residence and online degree programs at the master's and doctoral level, we have initiated plans in several areas. For doctoral students, the departmental Curriculum Committee has recently evaluated our advanced epidemiologic methods course offerings; we have updated and expanded them for the coming academic year. We also plan to take advantage of UW resources to provide additional career counseling and professional development activities to doctoral students, both within the classroom setting and more

informally. Currently the SPH Office of the Dean and the Curriculum and Educational Policy Committee are planning MPH curriculum evaluation/changes. We will collaborate with these plans, recognizing that we have a changing profile and interests of Master's students, including those with a public health practice orientation who may need a different curriculum from our traditional research-oriented MPH students. This spring a new course on professional skills is being offered to all MPH students; we will take advantage of this opportunity and encourage our students to take it. An additional activity we are strongly considering for the next year is to implement an online or hybrid version of selected graduate courses, and evaluate the feasibility of an on-line degree program, likely a fee-based MS or MSPH program. The UW Professional and Continuing Education office is available to assist us in the feasibility assessment and development of such a degree program.

Undergraduate Course and Program Development

In order to meet our goal of providing exposure to the field of epidemiology at the undergraduate level, we developed four new undergraduate courses in the past two years, and two more are in development using funds from the SPH Office of the Dean for course preparation. Two audiences exist for these courses: public health majors, who require upper level public health courses; and all UW undergraduates who have general interest in lower level courses. We are developing both types of courses, with a current emphasis on the lower level courses that will have higher visibility across campus and might be feeders to the public health major. We are strongly considering whether it is feasible and wise to establish an Epidemiology undergraduate minor, and will investigate this potential initiative with assistance from the SPH Associate Dean for Undergraduate Education.

Professional and Community Service

Part of our mission is to provide professional service in epidemiology by having faculty and students work with federal, state, and local health agencies and other organizations to conduct collaborative research and provide technical assistance. Our plan is to extend existing and create new joint Department of Epidemiology – health agency projects. As noted earlier, we have just established the Epi SEAL Team, in which SPH graduate students work with WA State DOH investigators on infectious disease outbreaks. This activity took advantage of existing relationships between Associate Professor Janet Baseman and state health officers. Dr. Baseman also collaborates with our colleagues in the Northwest Center for Public Health Practice on training and other activities involving regional health professionals. All of our MPH students have practicum experiences, and some of these are in local and state health agencies. Finally, we have just established a collaboration with the SPH Department of Biostatistics to respond to a request from the Washington State Health Care Authority for graduate certificate-level online training in analytic methods for HCA data analysts.

Our Benefit and Impact

We believe that the UW Department of Epidemiology has a substantial impact regionally, statewide, nationally, and internationally on the public's health and the furthering of epidemiologic knowledge. Evidence provided in this document includes the prominence and productivity of our 60 core faculty members, the collaborations we have established with academic and public health colleagues here and around the world, and the success of our graduates. Reaching the goals described in this section will allow us to continue this high level of achievement, and increase our impact by addressing current and emerging public health problems creatively and successfully.

Part B: Supplemental Questions Generated by Department of Epidemiology

Question 1: Training and Academics

1.1 The Finances of Class Size:

Under the current UW and SPH budgeting model, small sized classes that are the hallmark of graduate training are strong discouraged because they cost considerably more to offer (in the form of faculty FTE) than they generate in revenue (from student tuition). How do we increase class size without compromising the quality of the educational experience? How do we identify the optimal mix of small and large courses, and/or frequency of offering individual courses, to achieve the greatest educational and fiscal benefits for the costs?

As discussed in Part A, the Department receives a tuition revenue stream from SPH based upon student credit hours (SCH) taught the previous year. This method was implemented when SPH initiated an Activity Based Budgeting (ABB) allocation model in 2012. The SPH is the only School at the UW that uses this method of internal allocation. Under this model the Department receives less tuition revenue from low-enrollment courses than it does from high-enrollment courses. Historically, the Department had offered only graduate-level courses, the majority of which were electives with enrollments under 25. Direct costs for these courses (FTE support to instructors, plus TA costs) exceeded the revenue generated. This was a major cause for the overall decline in department operating reserves shown in Appendix B. During this same period SPH launched and expanded an undergraduate major. It became evident that there is a large demand from undergraduates across campus to enroll in public health courses. Epidemiology made a strategic decision to develop undergraduate courses to 1) expand offerings from a pedagogical perspective to undergraduates who otherwise would not be introduced to the discipline, and 2) leverage the financial gain of additional SCH that would be generated from new undergraduate courses. While this has proven successful, questions remain about the number (and selection) of graduate courses offered on a regular basis and how to obtain a balance between high-cost, low-enrollment courses and the bottom line of fiscal realities. We have considered offering lower enrollment (e.g. <25) electives every other year to reduce costs but this would pose challenges for students in 2-year masters programs when some of these electives require first year coursework to enroll. This also reduces faculty support to alternative years, also not ideal for faculty relying on teaching dollars to cover part of their FTE annually.

1.2 Our Applicant Pool

Our department has been encouraged to increase enrollment in our MPH and MS degrees to meet the needs of the public health workforce. What strategies should we use to increase the quality of our applicant pool so that expanded enrollment does not lead to a meaningful reduction in student quality? Should our MPH and/or MS admissions processes include deliberate consideration of research/practice interest areas to improve the breadth of the student body instead of just admitting the students with the highest review ranking based on overall application quality?

We currently receive 30 MS and 125 MPH applications from individuals who are not UW clinical fellows. The overwhelming majority of these individuals are completing their Bachelor's degree or will have done so in the prior 1-2 years. Compared to even 5 years ago, we are finding that both MS and MPH applicants are far more savvy about the field of epidemiology and public health more generally; a large proportion has taken public health courses or majored in public

health as undergraduates, and many have directly applicable work experience. We currently admit about 50% of these applicants and about one-third enroll. We believe that we have capacity to train more MS and MPH students but we've reached the limits of our applicant pool in terms of individuals who we believe are capable of the highly quantitative work our programs require and clear commitment to careers in epidemiology and public health. We suspect that additional qualified applicants are "out there" but have not applied to our program, and we need to understand how to find them and encourage them to consider the UW. One strategy would be to develop and implement a marketing plan to spread the word about UW Epidemiology Master's programs. It's also possible that we might attract some of these currently "missing" high quality applicants "passively" if the SPH were part of SOPHAS, but it seems unlikely that the school is going to join again without clear evidence of likely benefits. A related issue is that we don't explicitly evaluate MPH applicants on their commitment to (or experience with) a career in public health practice; such individuals are not common given among our prospective student pool given their relative youth. Without an increase in the qualified applicant pool, we would have a difficult time filling MPH slots if we made more of a distinction between them and MS applicants in terms of the role of public health practice (as opposed to applying epidemiologic methods in biomedical research).

1.3 Non-Traditional Education

How do we incorporate distance learning opportunities into our course offerings as a strategy for managing capacity challenges in core courses without reducing teaching quality and rapport between student and teacher? Should we develop a fee-based, distance-learning MSPH degree for clinicians to expand our reach beyond our existing tuition-based, on-campus MS and MPH programs?

Although perhaps relatively late to the game, we appear to have an opportunity to develop new non-traditional educational programs that would expand the Department's portfolio. Other departments in SPH (specifically Health Services) have well established fee-based programs. Epidemiology needs to determine the logical next steps to delve deeper into such potential opportunities, particularly with distance learning. In 2013 our curriculum committee chair met with representatives from UW Professional and Continuing Education (PCE) to discuss how to move forward with development of a fee-based program, in particular an online degree program in Epidemiology. Some of our lecture-based courses are recorded, and this would be the least expensive approach to online course development (i.e. offering a curriculum around recorded lectures), but this is not the ideal way to do online course/program development and we would likely not be competitive using such a model. The largest start-up costs involved in development of a fee-based program include: market research, program marketing and course development in an online format (including use of instructional design and videography resources, and significant faculty and support staff time). We are still weighing these costs against the uncertain benefits to the Department of offering such online, fee-based programs.

1.4 Academic Emphases

A recent publication from the American College of Epidemiology identified 12 "macro trends" that should be addressed in curricula in order to"…allow the field of epidemiology to more fully reach and sustain its full potential to benefit population health…" (Brownson et al. Ann Epidemiol 25:458-465, 2015). To what extent should such trends become features of our core curriculum, as opposed to areas to be emphasized through electives or practical experience? To what extent should addressing such trends be the sole responsibility of our department, as opposed to a shared activity with other departments within the SPH?

The macro trends influencing the future of the field of Epidemiology recently published by leaders in the field included areas in which our department does not currently have broad strength from either research or teaching perspectives. Examples include: availability and use of "Big Data", health care system reform, and translational research. If departmental faculty agree that many of these trends will indeed influence our field in the coming decades, we wonder whether we should devote limited departmental resources to increase training for our students in these areas or whether we should identify other departments in SPH or across UW that could offer training in these areas to our students. The benefit to training students in these areas within Epidemiology is that the content presented would be most relevant to our students and our field, which might be important since topics like health care reform and "big data" have many non-Epidemiology relevant histories and applications. On the other hand, development of courses in these areas would be costly additions to our course offerings and we may need to identify faculty outside of the Department of Epidemiology to develop and teach such courses.

Question 2: Faculty Development

In which substantive research areas should we invest our faculty development resources (e.g., new recruitments)? How much specific emphasis should our faculty development plans place on scholars who develop (and teach) epidemiologic methods as opposed to hypothesis-driven or public health practice-oriented research on substantive topics? What aspects of "lifelong learning" should the department explicitly encourage or require in order to maximize the chances that faculty can be productive researchers throughout their career, and not just when NIH funding is plentiful?

The School of Public Health in 2012 developed a strategic plan for the next 10 years. Two foci were called out: strengthening our core and meeting emerging challenges. As part of the meeting emerging challenges focus, six important areas of endeavor were identified: global environmental change and human health; genomics and public health; obesity, food, physical activity, and health; health policy and health systems; public health implementation science; and social determinants of health. SPH resources became available for faculty recruitments in each of these areas, and the Department of Epidemiology was fortunate to hire a research assistant professor in the social determinants of health area. Currently we are in the process of making an offer to a candidate for the genomics and public health position. Because of the resources available from the SPH Office of the Dean for these hires, it is appealing to add faculty in these areas. We already have one or more existing faculty members in each of these two research areas, and it is unclear what impact additional junior faculty (with better funding than existing faculty members) will have. It is possible that these new junior faculty members explicitly tasked with convening research groups in their areas will be effective catalysts for the establishment of departmental research centers, but the circumstances of their hiring and the additional resources they possess may cause dissension among the existing faculty. From a financial perspective, the additional resources they bring, and the time these new faculty members are charged with spending on development of their research programs, indicate that they may be an excellent investment in terms of increased research activity within the department.

Our current funding model values most highly faculty who are successful as principal investigators in large externally-funded studies. This makes it unlikely that scholars who develop and teach epidemiologic methods will be recruited onto the faculty; simply put, they are not likely to bring in sufficient funds to support their salaries. Yet these are the very scholars who can extend our reputation for excellence in epidemiologic methods teaching into the next generation. Determining a funding source for new faculty in this area is a challenge. Another option for investment of faculty development resources is in areas in which we have little or no effective presence. Public health practice epidemiology is one of these; the Department

historically has been quite research-oriented. As with a methods-oriented faculty member, it is difficult to envision faculty members with a public health practice focus as substantial grant-getters; hence determining a funding source for faculty in this area would be another challenge.

In the current challenging federal funding situation, it is important that all our faculty members develop the skills necessary to be productive researchers throughout their careers. The following table of primary faculty members by rank lists the number who currently are principal investigators on research grants through the department. This indicates that it is our most senior primary faculty members who may most benefit from encouragement or a requirement to continue to submit research grants, and assistance to improve their success in submissions.

	Res. Asst. Professors	**Asst. Professors**	**Res. Assoc. Professors**	**Assoc. Professors**	**Research Professors**	**Professors**
PIs on Epi. grants	1 + 1 K award	2 + 1 K award	1	2 + 1 K award	0	6
Not PIs	0	1	0	1	2	5

Question 3: Budget and Finances

The Department currently depends almost entirely on two revenue streams to fund its non-research activities: tuition (derived from student credit hours) and facilities and administration (F&A) costs (derived from grants and contracts). What other types of revenue could we be developing in order to increase our income and diversify our income sources to enable us to engage in strategic activities, such as recruiting new faculty and top applicants.

As previously noted, the main sources of revenue to the department come from the SPH ABB allocation, based primarily on tuition and RCR generation. Diversifying the Department's revenue streams will provide additional security should any one source experience short-term or even long-term declines. The Department has already been successful with incorporating this philosophy by developing new undergraduate courses. As RCR decreased as a result of reduced federal funding for grants, an overall stabilization of the departmental budget was achieved by investing in new undergraduate courses that led to increased tuition revenue. Yet, additional resources are needed, and further revenue diversification is prudent.

Two main opportunities seem evident: fee-based academic programs that generate revenue separate from the ABB allocation model, and new gifts and endowments to the Department. The potential benefits of developing new non-traditional educations opportunities (i.e. fee-based programs) has been addressed earlier here in "Part B". Revenue generated from this area could be used within the overall operating expenses of the department.

In regard to additional revenue from new gifts and endowments there is much to learn and it seems much to gain. The SPH Dean's Office historically had little consistent leadership or progress in Advancement activities, and in the past the Department has not had a strategic partnership with the limited SPH Advancement team that was in place. The SPH's Advancement office has strengthened considerably since Dean Frumkin's arrival, and with a new Chair the Department has initiated efforts to engage and partner with Advancement in expanded ways. Significant potential exists to identify potential donors and ultimately work toward major gifts that would establish new endowments for the department. Depending on the size of such endowments, new revenue streams could result and be leveraged to recruit top faculty and students to the department. For example, the potential to create an endowed professorship or chair would allow the department to offer funding to highly sought faculty

candidates at a level it has not been able to in the past. Likewise, new student endowments would allow the Department to recruit top student applicants who might otherwise select another institution that is able to offer a larger funding package.

In addition to the potential financial benefits of fee-based programs and new gifts from fundraising, it is likely there are other opportunities the department should consider and potentially pursue. Receiving guidance and advice from experiences and best-practices at other institutions will be invaluable as we proceed in this area.

Part C: Appendices

Appendix A: Organizational Chart

Organizational Chart

Victoria Holt, PhD
Chair

Angie Marie Buck
Assistant to Chair
Academic Human Resources

Reception/Office Support
Student Assistants

Leadership Team

DJ Miller
Administrator

Steve Schwartz, PhD
Student Academic Services
Graduate Program Director

Janet Baseman, PhD
Curriculum Committee
Chair

DJ Miller
Administrator

Matt Anderson
Budget Fiscal Unit
Supervisor

Barb McLaughlin
Grants & Contracts
Manager

Cheryl Kalent
Program Operations
Specialist

Erica MacArthur
Communications Manager

IT Support
(shared with other units)

Layla Bristol
HR Coordinator
(shared with other units)

Student Academic Services
Nick Smith, PhD
Assistant Graduate
Program Director

John Paulson
Assistant Director

Kevin Schuda
Curriculum & Student
Services Specialist

Julie Nevins
System Analyst

DEPARTMENT OF EPIDEMIOLOGY
UNIVERSITY of WASHINGTON
School of Public Health

Updated 1/20/2016

Appendix B: Budget Summary

APPENDIX B: BUDGET SUMMARY

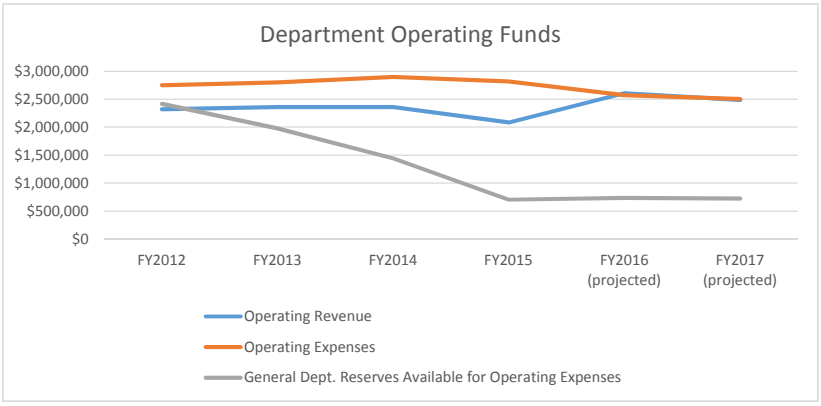
ALL DEPARTMENT FUNDS (Total Budget Activity)

	Biennium 2009-2011		Biennium 2011-2013		Biennium 2013-2015	
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Expenses: Including Grants	$19,171,663	$20,807,518	$20,067,842	$25,197,614	$21,806,083	$17,836,815
Expenses: Not Including Grants	*$3,566,116*	*$4,439,588*	*$2,991,900*	*$3,088,444*	*$3,016,314*	*$3,073,899*
Grant Expenses (Direct + Indirect)	$15,605,547	$16,367,930	$17,075,942	$22,109,170	$18,789,769	$14,762,916
Grant Expenses (Indirects only)	$2,610,967	$2,899,757	$3,240,583	$3,572,810	$2,696,987	$2,276,087
Encumbrances: Including Grants	$8,661,429	$7,261,592	$10,761,606	$8,336,154	$7,255,169	$3,262,470
Encumbrances: Not Including Grants	*$1,301,773*	*$43,894*	*$1,762,859*	*$140,305*	*$949,133*	*$6,821*
Remaining Balance: Including Grants	$13,411,299	$19,655,308	$13,941,497	$13,341,856	$7,541,697	$10,324,679
Remaining Balance: Not Including Grants	*$2,036,613*	*$3,625,992*	*$3,154,413*	*$3,164,221*	*$2,461,307*	*$1,450,360*

Note: "All Department Funds" include non-grant budgets linked directly to a faculty member (e.g., gift and revenue-generating accounts)

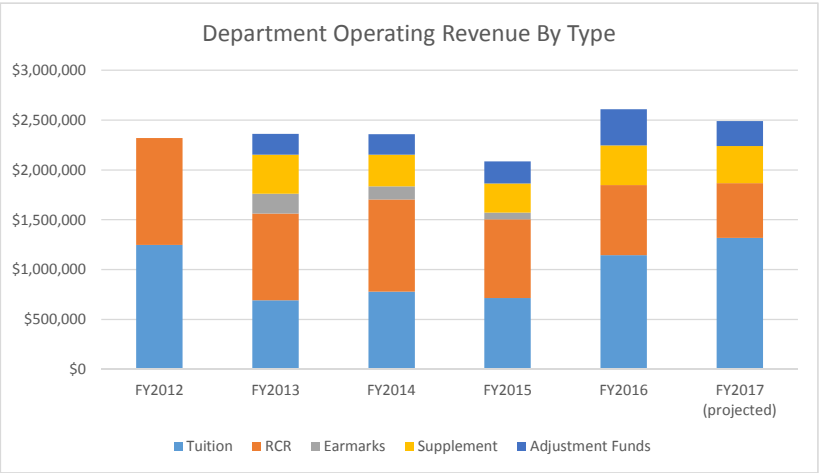
DEPARTMENT OPERATING FUNDS ONLY (since ABB initiated)

	FY2012	FY2013	FY2014	FY2015	FY2016 (projected)	FY2017 (projected)
Operating Revenue	$2,321,000	$2,363,000	$2,360,000	$2,085,000	$2,610,500	$2,490,000
Operating Expenses	$2,750,000	$2,800,000	$2,900,000	$2,819,000	$2,576,000	$2,505,000
General Dept. Reserves Available for Operating Expenses	$2,417,000	$1,980,000	$1,440,000	$706,000	$740,500	$725,500



DEPARTMENT OPERATING REVENUE BY TYPE (since ABB initiated)

	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017 (projected)
Tuition	$1,246,800	$694,000	$780,000	$713,500	$1,146,000	$1,320,000
RCR	$1,074,200	$868,000	$924,000	$792,000	$703,000	$548,000
Earmarks		$199,500	$133,000	$66,500		
Supplement		$391,500	$315,000	$293,000	$396,500	$372,000
Adjustment Funds		$210,000	$208,000	$220,000	$365,000	$250,000



Appendix C: Information about Faculty

**Faculty no longer In the Department of Epidemiology*

Core Faculty in the Department of Epidemiology

Anju Aggarwal PhD, MSc
Acting Assistant Professor, Epidemiology
Member of the Nutritional Sciences Program Faculty
CV: http://depts.washington.edu/epidem/CV/AggarwalA.pdf

Susan J. Astley PhD
Professor, Epidemiology
Adjunct Professor, Pediatrics
CV: http://depts.washington.edu/epidem/CV/AstleyS.pdf

Jared Baeten MD, PhD
Professor, Epidemiology
Professor and Vice Chair, Global Health
Professor, Allergy and Infectious Dis., SOM (primary department)
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Janet Baseman PhD, MPH
Associate Professor, Epidemiology
Adjunct Associate Professor, Health Services
CV: http://depts.washington.edu/epidem/CV/BasemanJ.pdf

Shirley A. A. Beresford PhD, Professor
Senior Associate Dean, School of Public Health
Professor, Epidemiology
Adjunct Professor, Health Services
Member of the Nutritional Sciences Program Faculty
Member (Joint), Fred Hutchinson Cancer Center
CV: http://depts.washington.edu/epidem/CV/BeresfordS.pdf

Parveen Bhatti PhD, MSc
Research Assistant Professor, Epidemiology
Assistant Member, Fred Hutchinson Cancer Center (home institution)
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*__Dedra Buchwald, MD__
Professor, Epidemiology
Professor, Medicine
Physician, Medicine, Harborview
Director Chronic Fatigue: CCER;

***Lee Ann Campbell, PhD**
Professor, Epidemiology

Scott Davis PhD, MS
Professor, Epidemiology
Member (Joint), Fred Hutchinson Cancer Research Center
CV: http://depts.washington.edu/epidem/CV/DavisS.pdf

Joseph A. Delaney PhD, MA
Research Assistant Professor, Epidemiology
CV: http://depts.washington.edu/epidem/CV/DelaneyJ.pdf

***Glen Duncan, PHD**
Associate Professor, Epidemiology
Member of the Nutritional Sciences Program

Adam Drewnowski PhD, MA
Professor, Epidemiology
Director of the Nutritional Sciences Program
CV: http://depts.washington.edu/epidem/DrewnowskiA(NS).pdf

Daniel A. Enquobahrie PhD, MPH, MD
Associate Professor, Epidemiology
CV: http://depts.washington.edu/epidem/CV/EnquobahrieD.pdf

Carey Farquhar MD
Professor, Epidemiology
Professor, Allergy and Infectious Dis., SOM (primary department)
Professor, Global Health
CV: http://depts.washington.edu/epidem/CV/FarquarC.pdf

Annette L. Fitzpatrick PhD, MA
Research Professor, Epidemiology
Assistant Dean for Graduate Education, SPH
Research Professor, Family Medicine, SOM (primary department)
Adjunct Research Professor, Global Health
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Assistant Professor, Epidemiology
CV: http://depts.washington.edu/epidem/CV/FrettsA.pdf

Gary M. Goldbaum MD, MPH
Associate Professor, Epidemiology
Adjunct Associate Professor, Health Services
Health Officer and Director of the Snohomish Health District (home institution)
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Jack Goldberg PhD
Research Professor, Epidemiology
Senior Epidemiologist, Veterans' Administration
CV: http://depts.washington.edu/epidem/CV/GoldbergJ.pdf

Brandon Guthrie PhD, MPH
Assistant Professor, Epidemiology
Assistant Professor, Global Health (primary department)
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Anjum Hajat PhD, MPH
Research Assistant Professor, Epidemiology
CV: http://depts.washington.edu/epidem/CV/HajatA.pdf

Elizabeth Halloran MPH, DSc
Professor, Epidemiology
Professor, Biostatistics (primary department)
Adjunct Professor, Applied Mathematics
CV: http://depts.washington.edu/epidem/CV/HalloranE.pdf

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Adjunct Associate Professor, Global Health
Adjunct Associate Professor, Health Services
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Senior Investigator, Group Health Research Institute (home institution)
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Professor, Allergy and Infectious Dis., SOM (primary department)
Professor, Global Health
Professor, Pediatrics
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Professor, General Internal Medicine
Director, Occupational and Environmental Medicine Program
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Professor, Epidemiology
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Professor, Epidemiology
Professor, Geography, A&S (primary department)
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Adjunct Professor, Family Medicine
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Research Professor, Epidemiology
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Member of the Nutritional Sciences Program
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Professor, General Internal Medicine, SOM (primary department)
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Professor, Epidemiology
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CV: http://depts.washington.edu/epidem/CV/ReiberG.pdf

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Research Professor, Epidemiology
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CV: http://depts.washington.edu/epidem/CV/ReinerA.pdf

Mary A. Rossing PhD, DVM
Research Professor, Epidemiology
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Stephen M. Schwartz PhD, MPH
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CV: http://depts.washington.edu/epidem/CV/SchwartzS.pdf

Nicholas L. Smith PhD
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CV: http://depts.washington.edu/epidem/CV/SmithN.pdf

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Research Professor, Epidemiology
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Anna Wald MD, MPH
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Noel S. Weiss MD, DrPH
Professor, Epidemiology
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Marcia Swanson Williams PhD, MPH
Senior Lecturer, Epidemiology
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Ruanne Barnabas DPhil, MSc
Assistant Professor, Allergy and Infectious Diseases
Assistant Professor, Global Health
Adjunct Assistant Professor, Epidemiology

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Assistant Professor, Psychosocial and Community Health
Adjunct Assistant Professor, Epidemiology

Edward J. Boyko MD, MPH
Professor, General Internal Medicine
Adjunct Professor, Epidemiology

Gerard A. Cangelosi PhD
Professor, Environmental and Occupational Health Sciences
Adjunct Professor, Epidemiology
Adjunct Professor, Global Health

Corey Casper MD, MPH
Professor, Allergy and Infectious Diseases
Adjunct Professor, Epidemiology
Adjunct Professor, Global Health

Connie Celum MD, MPH
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Professor, Global Health
Adjunct Professor, Epidemiology

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Associate Professor, Global Health
Adjunct Associate Professor, Epidemiology

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Associate Professor, Nephrology
Adjunct Associate Professor, Epidemiology

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Adjunct Professor, Epidemiology
Health Officer, Public Health Seattle and King County
Faculty, Northwest Center for Public Health Practice

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Adjunct Professor, Epidemiology
Adjunct Professor, Health Services

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Adjunct Professor, Epidemiology

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Adjunct Professor, Epidemiology
Adjunct Professor, Rehabilitation Medicine

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Adjunct Associate Professor, Epidemiology
Member and contributor to the Institute of Public Health Genetics

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Associate Chair for Education and Curriculum, Global Health
Professor, Global Health (primary department)
Professor, Health Services
Adjunct Professor, Epidemiology
Adjunct Professor, Evans School
Adjunct Professor, Family Medicine
Adjunct Professor, Industrial & Systems Engineering

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Adjunct Professor, Epidemiology

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Associate Professor, Global Health
Adjunct Associate Professor, Epidemiology

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Adjunct Associate Professor, Epidemiology

Jodie K. Haselkorn MD, MPH
Professor, Rehabilitation Medicine
Adjunct Professor, Epidemiology

Jane Hitti MD, MPH
Professor, Obstetrics and Gynecology
Adjunct Professor, Epidemiology

King K. Holmes MD
Professor, Allergy and Infectious Diseases
Professor, Global Health
Adjunct Professor, Epidemiology
Adjunct Professor, Microbiology

Philippe P. Hujoel PhD, DDS, MS
Professor, Oral Health Sciences
Adjunct Professor, Epidemiology

Gail P. Jarvik MD, PhD
Professor, Medical Genetics
Adjunct Professor, Epidemiology
Head, Division of Medical Genetics
The Arno G. Motulsky Endowed Chair in Medicine
Joint Professor of Medicine and Genome Sciences

Catherine Karr PhD, MD
Associate Professor, Pediatrics (primary department)
Associate Professor, Environmental and Occupational Health Sciences
Adjunct Associate Professor, Epidemiology

Roxanne P. Kerani PhD, MPH
Acting Assistant Professor, Allergy and Infectious Diseases
Adjunct Assistant Professor, Epidemiology

Bryan R. Kestenbaum MD, MS
Associate Professor, Nephrology
Adjunct Associate Professor, Epidemiology

W.T. Longstreth, Jr. MD, MPH
Professor, Neurology
Adjunct Professor, Epidemiology

Michael D. Martin PhD, MSD
Professor, Oral Medicine
Adjunct Professor, Epidemiology

Barbara B. McGrath PhD, MA, MA
Research Associate Professor, Psychosocial and Community Health
Adjunct Research Associate Professor, Anthropology
Adjunct Research Associate Professor, Epidemiology
Adjunct Research Associate Professor, Women Studies

Ali Mokdad PhD
Professor, Global Health (primary department)
Adjunct Professor, Epidemiology
Adjunct Professor, Health Services

Masa Narita MD
Professor, Pulmonary and Critical Care Medicine
Adjunct Professor, Epidemiology
Adjunct Professor, Global Health
Director, TB Control Program
Public Health - Seattle & King County

Donald L. Patrick PhD, MS
Professor, Health Services
Adjunct Professor, Department of Pharmacy
Adjunct Professor, Epidemiology
Adjunct Professor, Rehabilitation Medicine
Adjunct Professor, Sociology

Thomas W. Pendergrass MD, MSPH
Professor, Pediatrics
Adjunct Professor, Epidemiology
Vice Chair for Education (Department of Pediatrics)

Steven A. Pergam MD, MPH
Assistant Professor, Allergy and Infectious Diseases
Adjunct Assistant Professor, Epidemiology
Assistant Member, Vaccine and Infectious Disease and Clinical Research Divisions, Fred Hutchinson Cancer Research Center
Associate Director of Infection Control, Seattle Cancer Care Alliance

Michael Porter MD, MS
Associate Professor, Urology
Adjunct Associate Professor, Epidemiology

Kerryn W. Reding PhD, MPH
Assistant Professor, Biobehavioral Nursing and Health Systems
Adjunct Assistant Professor, Epidemiology

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Adjunct Professor, Epidemiology
Director, Women's Reproductive Health Research Program
Chief of Service, University of Washington Medical Center, Obstetrics and Gynecology

Isaac Rhew PhD, MPH
Research Assistant Professor, Psychiatry & Behavioral Sciences
Adjunct Research Assistant Professor, Epidemiology

Frederick P. Rivara MD, MPH
Professor, Pediatrics
Adjunct Professor, Epidemiology

Cassy Robinson-Cohen PhD, MSc
Research Assistant Professor, Nephrology
Adjunct Research Assistant Professor, Epidemiology
Researcher, Kidney Research Institute

Timothy M. Rose PhD
Professor, Pediatrics
Adjunct Professor, Epidemiology
Adjunct Professor, Microbiology
Adjunct Professor, Oral Health Sciences

Kenneth Sherr PhD, MPH
Associate Professor, Global Health (primary department)
Adjunct Associate Professor, Epidemiology
Adjunct Associate Professor, Industrial & Systems Engineering

Jodi M. Smith MDCM, MPH
Associate Professor, Pediatrics
Adjunct Associate Professor, Epidemiology

Joanne D. Stekler MD, MPH
Associate Professor, Allergy and Infectious Diseases
Adjunct Associate Professor, Epidemiology

Andy S. Stergachis PhD, MS
Associate Dean, School of Pharmacy
Professor, Pharmacy
Professor, Global Health
Adjunct Professor, Epidemiology
Adjunct Professor, Health Services

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Adjunct Professor, Epidemiology
Adjunct Associate Professor in Pediatric Dentistry

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Adjunct Professor, Epidemiology
Director, GRECC, VISN-20 Geriatric Research, Education, and Clinical Center

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Assistant Member, Clinical Research Division, Fred Hutchinson Cancer Research Center

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Professor, Allergy and Infectious Diseases
Professor, Global Health
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Fredric M. Wolf PhD, MEd
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Adjunct Professor, Epidemiology
Adjunct Professor, Health Services

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Professor, Nephrology
Adjunct Professor, Epidemiology
Adjunct Professor, Health Services
Core Investigator, Seattle Epidemiologic Research and Information Center (ERIC)

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Adjunct Associate Professor, Epidemiology

**Faculty no longer In the Department of Epidemiology*

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Adjunct Associate Professor, Epidemiology

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Professor, Neurology (primary department)
Professor, Global Health
Adjunct Professor, Epidemiology

Affiliate Faculty in the Department of Epidemiology

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Affiliate Professor, Health Services *(primary department)*
Affiliate Professor, Epidemiology
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